

**Rapid chromosome evolution and acquisition of thermosensitive
stochastic sex determination in nematode androdioecious hermaphrodites**

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Supplementary Tables

Supplementary Table 1 The number of orthogroup genes previously assigned to Nigon elements in *P. fissidentatus* chromosomes.

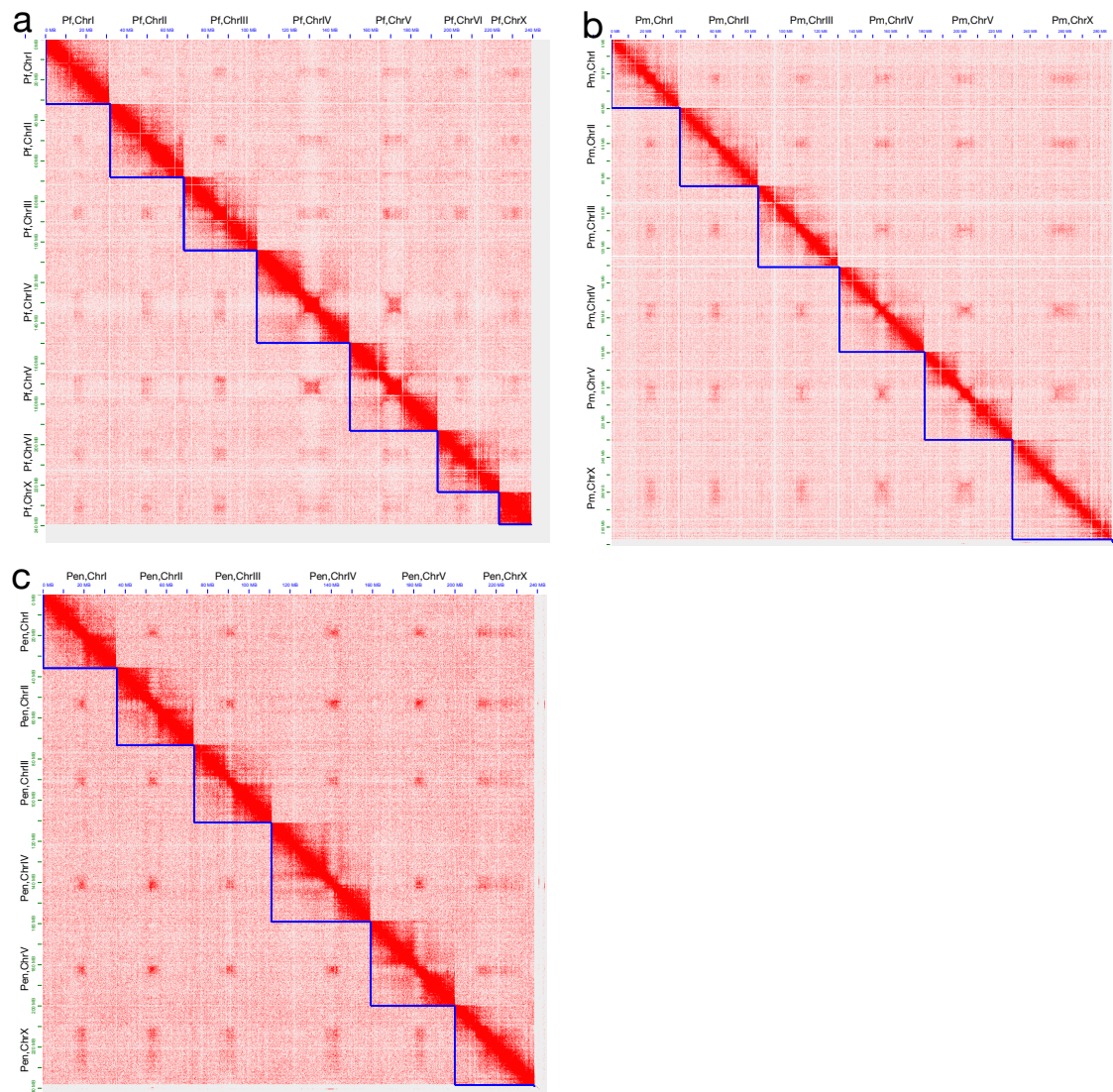
	<i>P. fissidentatus</i> chromosomes							Not detected*	% Mode in detected genes
	ChrI	ChrII	ChrIII	ChrIV	ChrV	ChrVI	ChrX		
NigonA	4	5	1	2	423	3	2	89	96%
NigonB	1	264	0	1	1	1	1	57	98%
NigonC	3	3	418	0	0	1	1	91	98%
NigonD	1	1	2	203	1	1	0	63	97%
NigonE	172	0	0	1	0	1	0	66	99%
NigonN	3	0	0	0	0	128	0	41	98%
NigonX	1	0	1	0	0	0	80	37	98%

Orthogroup genes in *C. elegans* genome was used for the analysis. These genes were searched in the list of the one-to-one orthologs between *C. elegans* and *P. fissidentatus* in the present study. *, the number of orthogroup genes not detected in the one-to-one orthologs.

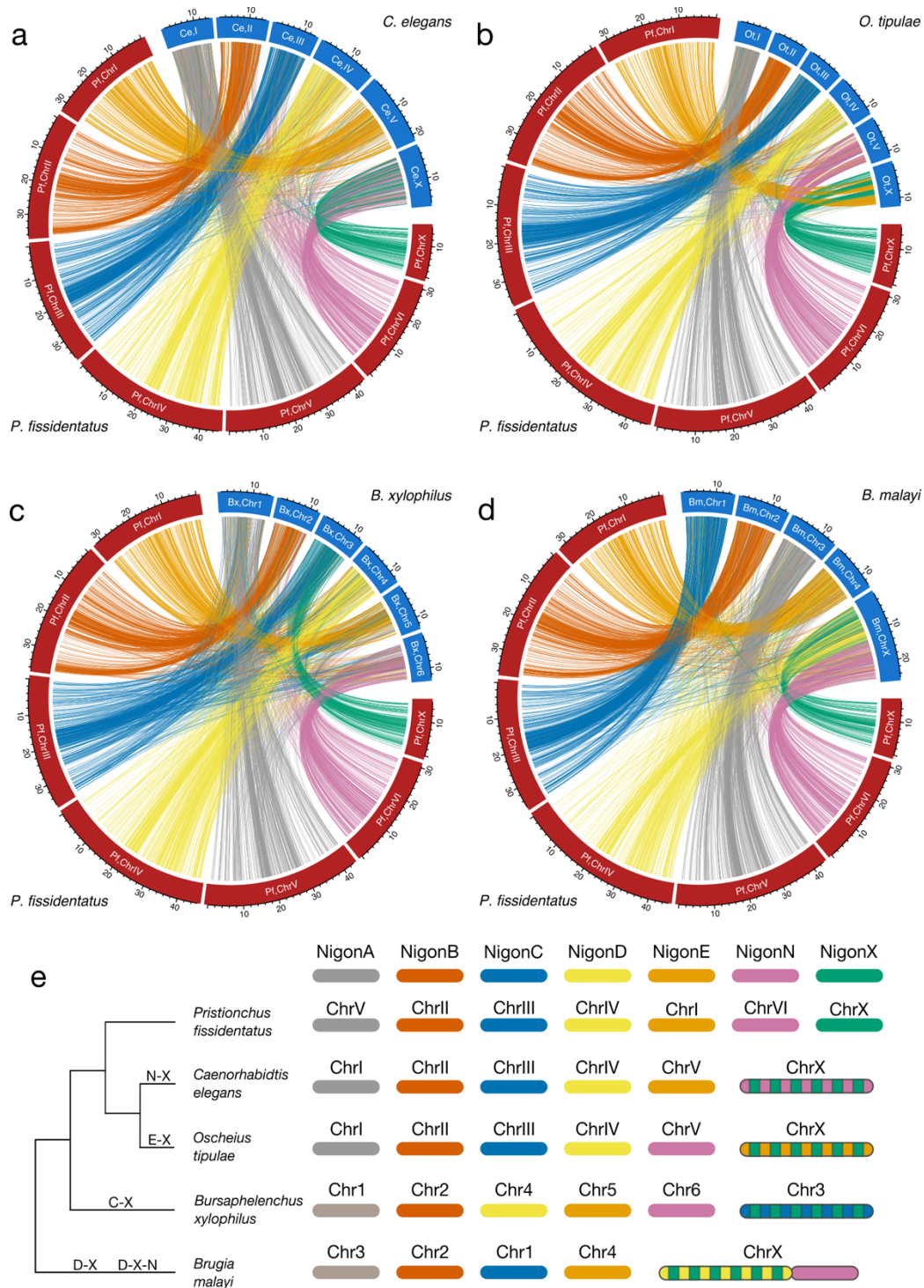
Supplementary Table 2 Sequences of the primers and CRISPR guide RNA

Name of nucleotide sequences	Sequence (5' to 3')
Primers	
RH5401	AAAGATTAAGCCATGCATG
RH5403	AGCTGGAATTACCGCGGCTG
Pmay-tra-1.1F	TGCTCGGTCAGTACTAAATCGT
Pmay-tra-1.1R	CCTGTCACTGGCATTGGAGA
CRISPR guide RNA (site-specific sequence)	
guide RNA for <i>Pmay-tra-1.1</i>	ACGCACATGCGAACCCACAC

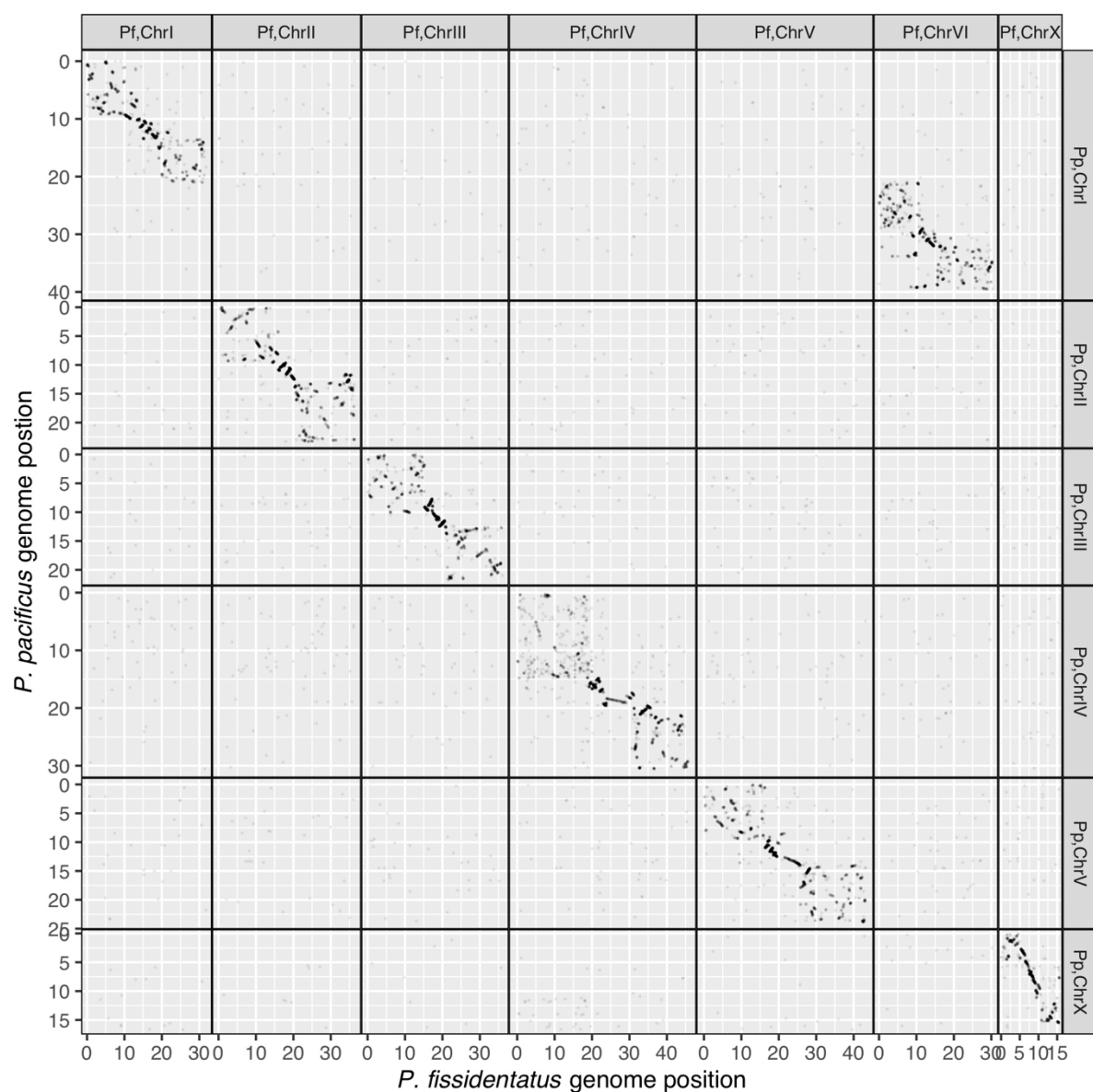
Supplementary Figures



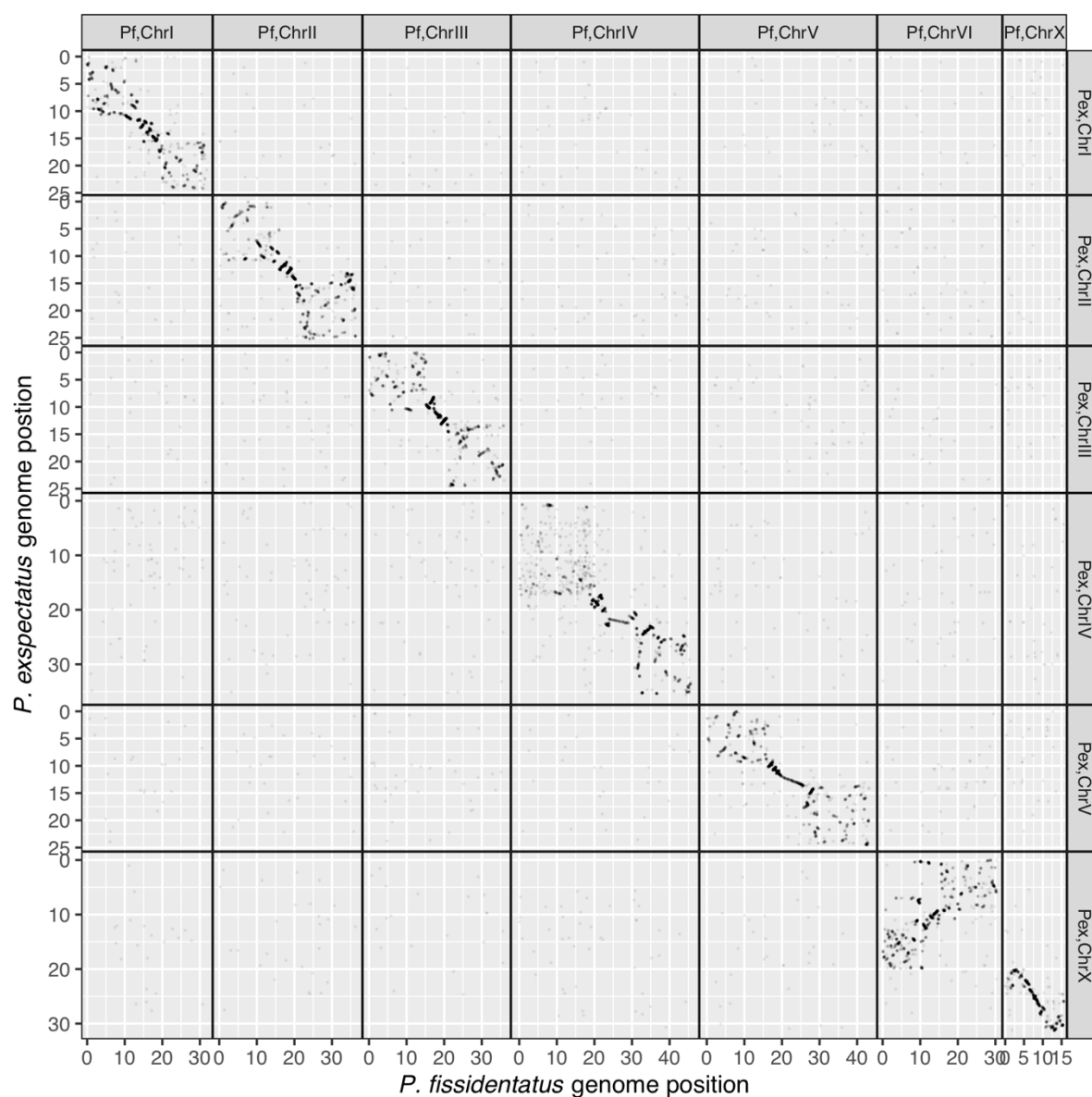
Supplementary Fig. 1 Hi-C contact map of new genome assemblies of (a) *P. fissidentatus*, (b) *P. mayeri* and (c) *P. entomophagus*. Blue lines indicate resultant scaffolds.



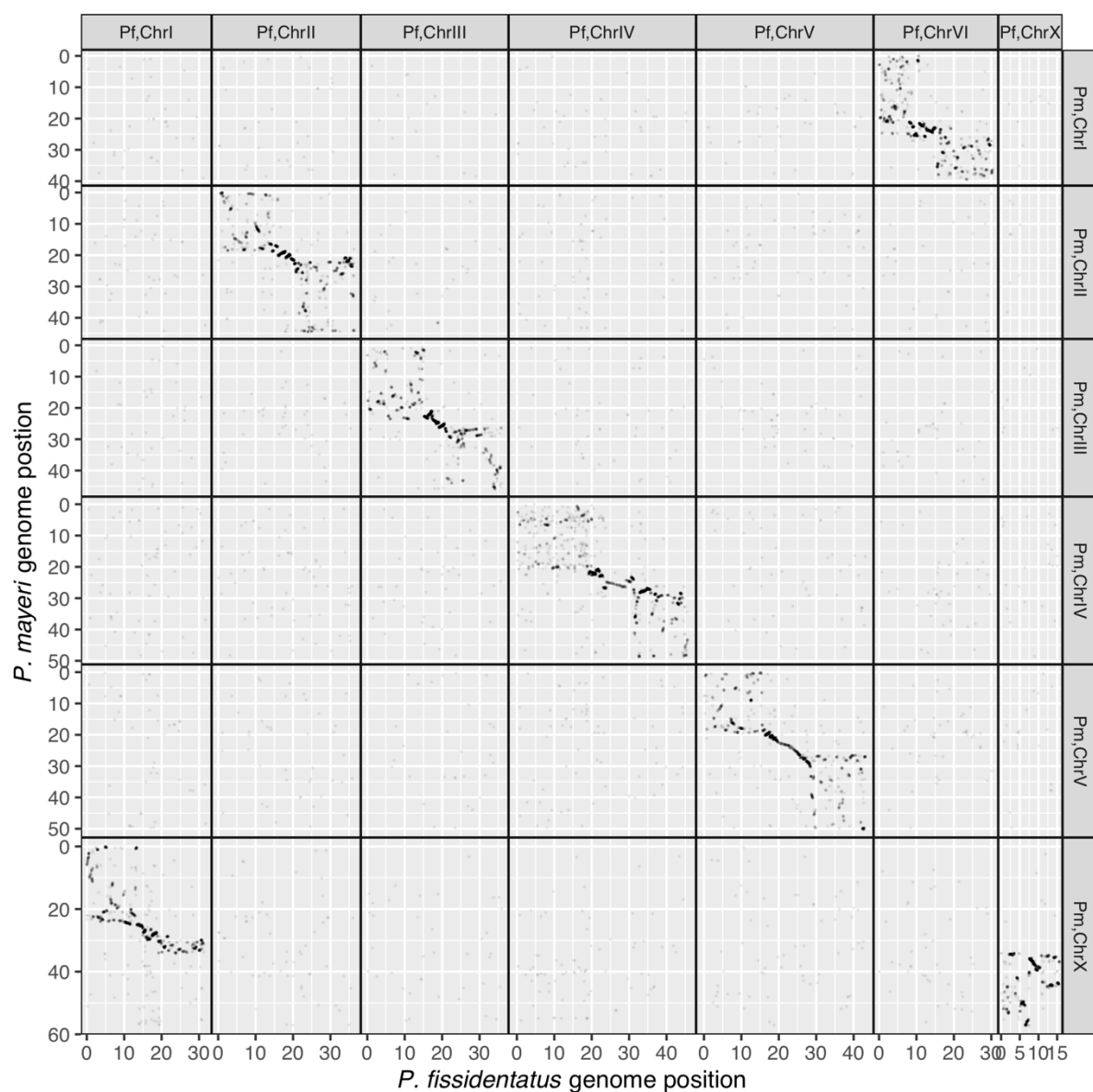
Supplementary Fig. 2 Seven chromosomes of *P. fissidentatus* are conserved chromosome elements across nematodes. **a-d.** Comparative synteny analysis between *P. fissidentatus* and *Caenorhabditis elegans* (a), *Oscheius tipulae* (b), *Bursaphelenchus xylophilus* (c) and *Brugia malayi* (d), respectively. Three thousand pairs of one-to-one ortholog genes were randomly selected for each species pair, and their genomic positions were displayed as links. Colors of links represents *P. fissidentatus* chromosomes. **e.** Conserved Nigon elements and chromosome evolution across nematodes. The previously-described chromosome evolution in the outgroup species was confirmed by the comparative synteny analysis with *P. fissidentatus*, which has conserved ancestral nematode chromosomes.



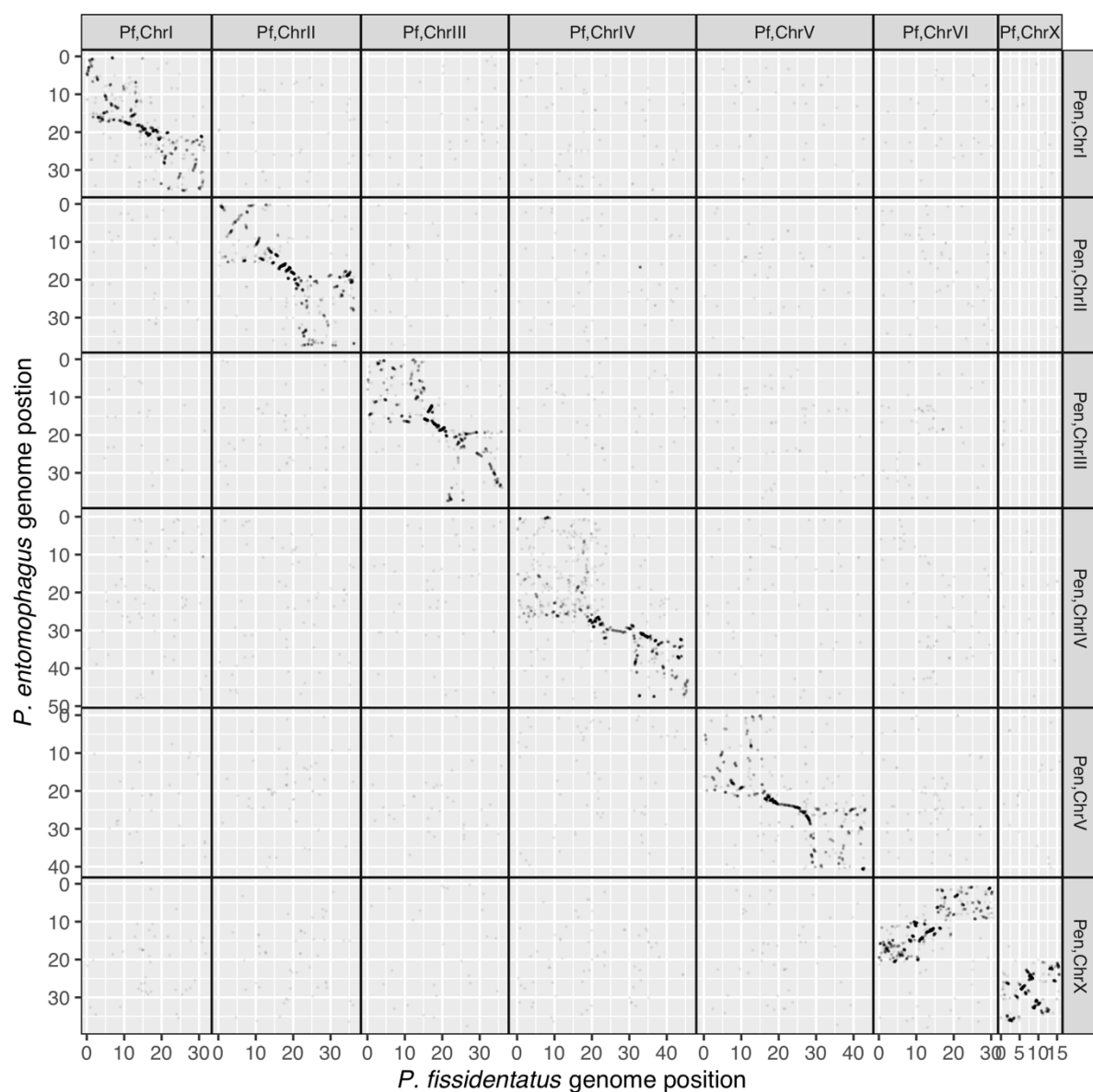
Supplementary Fig. 3 Dot plot analysis of comparative synteny between *P. fissidentatus* and *P. pacificus*.



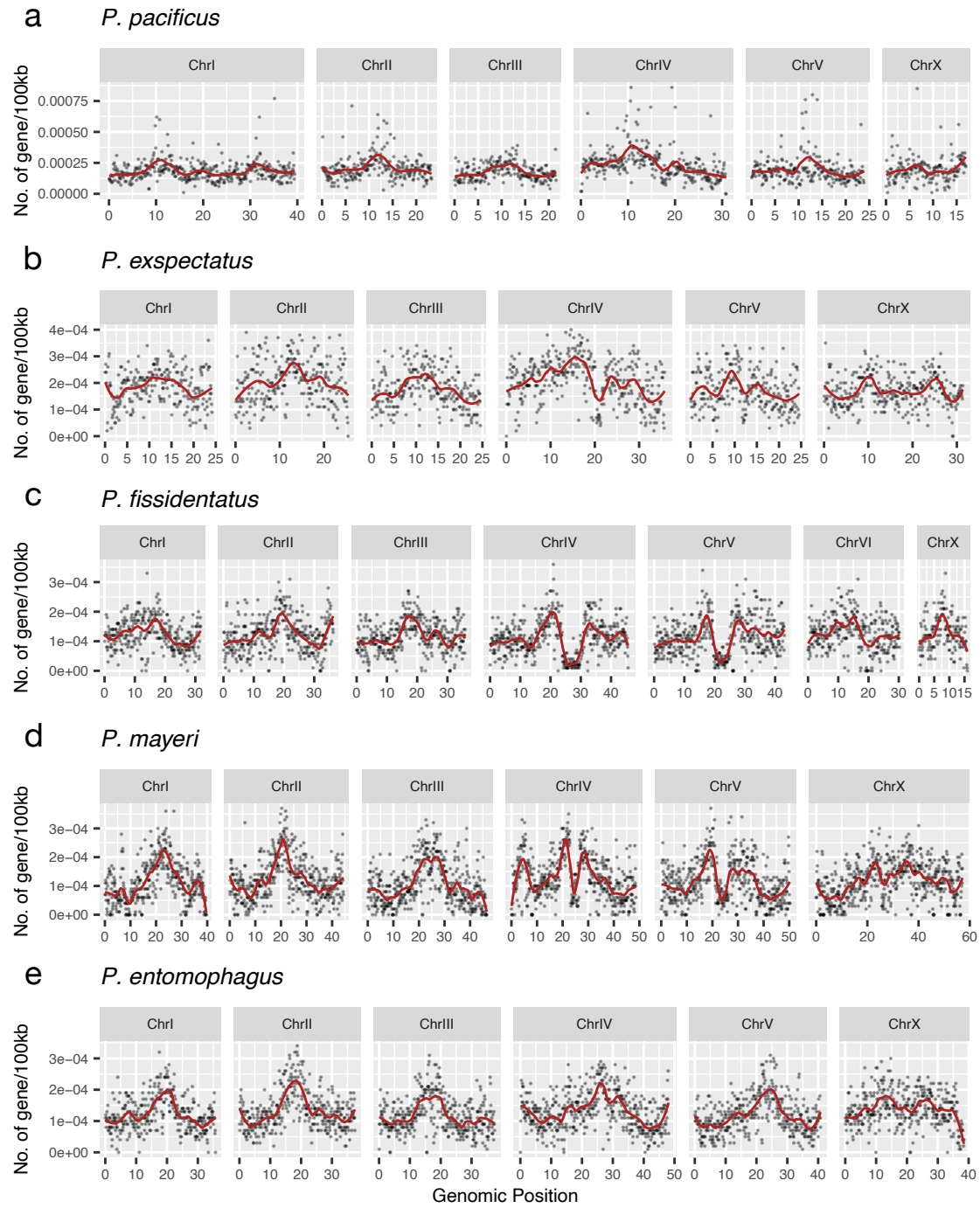
Supplementary Fig. 4 Dot plot analysis of comparative synteny between *P. fissionatus* and *P. expectatus*.



Supplementary Fig. 5 Dot plot analysis of comparative synteny between *P. fissidentatus* and *P. mayeri*.



Supplementary Fig. 6 Dot plot analysis of comparative synteny between *P. fissidentatus* and *P. entomophagus*.



Supplementary Fig. 7 Chromosomal pattern of gene density of five *Pristionchus* species. Gene density of each 100kb sliding window is shown as black points. Red lines indicate LOESS regression lines.